

# Arizona Department of Health Services

## OCDPNS Nutrition Standard

### Older Adults

#### **Dietary Quality/Appropriate Nutrition:**

##### **Macronutrients (1)**

- **Carbohydrates:**  
51 – 70 years :  
Males – 130 g/day  
Females – 130 g/day  
71+ years:  
Males – 130 g/day  
Females – 130 g/day
- **Total fat:**  
20 – 35% of total calories per day, or Adequate to Meet Dietary Needs (AMDR)
- **Protein:**  
51-70 years:  
Males – 56 g/day  
Females - 46 g/day  
71+ years:  
Males – 56 g/day  
Females – 46 g/day

The 1989 Recommended Dietary Allowances include .8 g of protein per kilogram of reference body weight as a recommendation for all adults.(2) However, there is some research that more protein, 1 – 1.25 g per kilogram of body weight may be helpful for older adults. (3,4)

- **Total Fiber:**  
  
51 – 70 years:  
Males - 30 g/day Adequate Intake (AI)  
Females – 21 g/day (AI)  
  
71+ years:  
Males – 30 g/day (AI)  
Females – 21 g/day (AI)

## **Persons > 2 years should follow Dietary Guidelines (5)**

- Aim for a healthy weight.
- Be physically active each day.
- Let the Pyramid guide food choices.
- Choose a variety of grains daily, especially whole grains.
- Choose a variety of fruits and vegetables daily.
- Keep food safe to eat.
- Choose a diet low in saturated fat and cholesterol and moderate in total fat.
- Choose beverages and foods to moderate your intake of sugars.
- Choose and prepare foods with less salt.
- If you drink alcoholic beverages, do so in moderation.

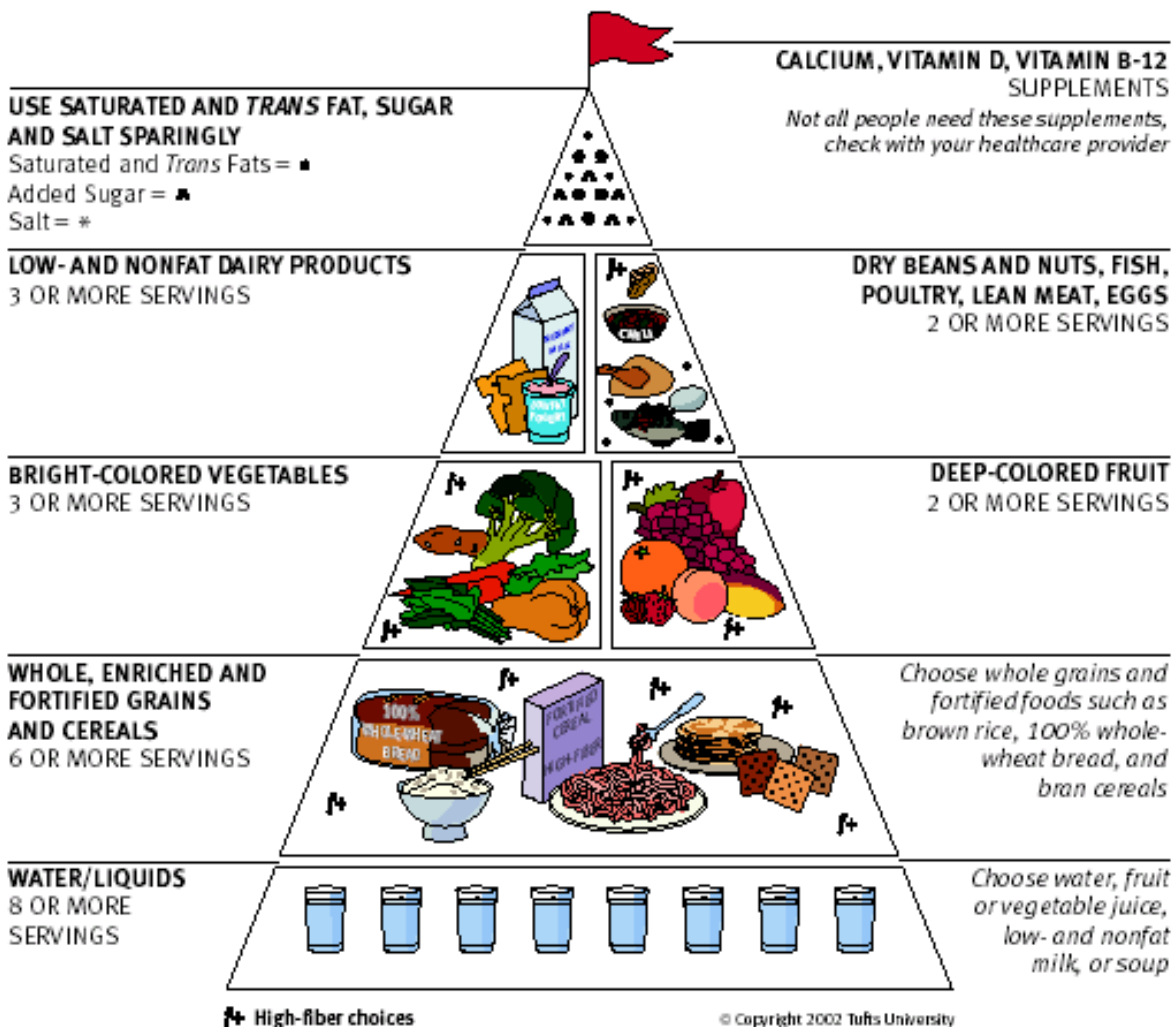
## **Food Guide Pyramid for Older Adults (6)**

This pyramid differs from pyramids for younger populations:

- The base of the pyramid is a minimum of 8 glasses of 8 oz of water daily. A reduced sense of thirst can lead to drinking less than needed. Dehydration could decrease kidney function and cause constipation.
- The pyramid is narrower than other pyramids, recognizing that older adults need less calorie intake.
- A minimum number of food servings is listed in each group on the pyramid, rather than a range.
- The vegetable group is “bright colored vegetables” and the dairy products are “low and nonfat dairy products” because the foods should be nutrient dense for older adults, because energy requirements decrease with age.
- A flag at the top of the pyramid promotes attention to the recommendation for dietary supplements of calcium, vitamin D and vitamin B-12. Older adults may eat less of these nutrients and process them less efficiently than younger individuals.
- A fiber icon (f+) is on the pyramid indicates fiber-rich foods. Fiber is particularly important to prevent constipation, hemorrhoids and diverticulosis. It is also associated with lower cholesterol levels.

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# Food Guide Pyramid for Older Adults



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## Iron

- DRI'S: (7)
- 51 – 70 years:  
Males – 8 mg/day  
Females – 8 mg/day
- 71+ years:  
Males – 8 mg/day  
Females – 8 mg/day

Iron-deficiency anemia is not a disease, but a symptom of an underlying health problem. It is the most common blood disorder among seniors. It is important to eat foods rich in vitamin C with iron-containing foods to improve the iron absorption.

Avoid drinking tea with iron-rich foods because they inhibit the body's absorption of iron.  
(11)

## Fruit/Vegetable Intake

### Vitamin A

- DRI's (7)
- 51 – 70 years:  
Males - 900 µg/day  
Females – 700 µg/day
- 71+ years:  
Males – 900 µg/day  
Females – 700 µg/day

### Vitamin C

- DRI's (8)
- 51 – 70 years:  
Males - 90 mg/day  
Females – 75 mg/day
- 71+ years:  
Males – 90 mg/day  
Females – 75 mg/day

### Serving Sizes – Vegetables

1 cup of raw leafy vegetables
1/2 cup of vegetables – raw or cooked
3/4 cup of vegetable juice

## Serving Sizes - Fruits

1 medium apple, banana, orange
1/2 cup of chopped, cooked, or canned fruit
3/4 cup of 100% fruit juice

## Calcium and Vitamin D

### Calcium

- DRI's (9)
- 51 – 70 years:
  - Males – 1200 mg/day (AI)
  - Females – 1200 mg/day (AI)
- 71+ years:
  - Males – 1200 mg/day (AI)
  - Females – 1200 mg/day (AI)

### Vitamin D:

- DRI'S (9)
- 51 – 70 years:
  - Males - 10 µg or 400 IU/day
  - Females – 10 µg or 400 IU/day
- 71+ years:
  - Males – 15 µg or 600 IU/day
  - Females – 15 µg or 600 IU/day

Three servings of calcium rich foods daily may provide the needed calcium.

Milk, cheese, yogurt, greens, broccoli, sardines, canned salmon with bones, dried beans and peas and calcium-fortified orange juice and calcium-fortified tofu are sources of calcium.

Lactose intolerant persons may find fewer choices of calcium-rich foods. Lactose-free milk and lactase enzymes may enable a lactose-intolerant person to consume milk and dairy products along with plant sources of calcium.

Both calcium and vitamin D are important to maintain bone health. Vitamin D can be provided by exposure to sunlight, but this ability decreases with age and physical impairments that restrict some older adults access to sunlight.

Certain medications, including some over the counter products such as antacids, anti-inflammatories and laxatives, as well as prescription medications, may interfere with calcium absorption. (12)

## **Folic Acid**

- DRI'S (10):
- 51 – 70 years:
  - Males - 400 µg/day(AI)
  - Females – 400 µg/day(AI)
- 71+ years
  - Males – 400 µg/day (AI)
  - Females – 400 µg/day (AI)

With adequate B-6 and B-12, folic acid may prevent some decline in mental function and reduce the risk of coronary artery disease, by keeping homocysteine levels within normal ranges. (13,14)

### **Other Considerations for Older Adults**

When older adults can't eat a variety of foods, they should use a low-dose multiple vitamin/mineral supplement. (15)

B-12 fortified foods or supplements of B-12 should be used by people 51+ years, because 10 – 30% of older adults have protein-bound B-12 malabsorption. (16)

## **Healthy Weight**

Body Mass Index (BMI), a measure of weight compared to height, may be used to evaluate appropriate weight:

< 18.5 is considered underweight

18.5 – 25 range is considered healthy

25 – 30 is considered overweight

>30 is considered obese.

BMI Calculator is available at

<http://www.cdc.gov/nccdphp/dnpa/bmi/bmi-means.htm>

Waist measurements, in inches, are also indicators of health and weight status:

> 35 for women is considered overweight

>40 for men is considered overweight.

A BMI below 18.5 may increase the risk of osteoporosis. (5) Many older adults experience weight loss because of inadequate food intake. Such unexplained weight loss may be associated with illness and premature death. (17) Overweight increases the risk of several chronic disease conditions. (18) Generally older people lose both bone and lean body mass and gain fat, because of hormonal changes that affect appetite and metabolism. (19,20) Energy intake should decline to match these decreases, unless physical activity increases. Those who are overweight should aim to lose no more than 10% of their body weight in 6 months or ½ to 2 pounds per week. (5)

## **Physical Activity**

### **Dietary Guideline Recommendation: Aim for Fitness (5) Surgeon General's Report (21)**

- 30 minutes of moderate physical activity performed on most days of the week

#### **Useful Resource:**

*Exercise: A Guide from the National Institute on Aging* produced by the U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, Institute on Aging, NIH Publication No. 01-4258, available from 800-222-2225 or <http://www.nih.gov/nia>

## **Oral Health**

- DRI's for Fluoride: (9)
- 51 – 70 years:  
Males - 4 mg/day (AI)  
Females - 3 mg/day (AI)

71+ years:  
Males – 4 mg/day (AI)  
Females – 3 mg/day (AI)

#### **Recommendations (22)**

- Drink fluoridated water and use a fluoride toothpaste.
- Thorough tooth brushing and flossing reduce dental plaque and can prevent gingivitis, and inflammation of the gums.
- Avoid tobacco, which increase the risk for gum disease, oral and throat cancers and fungal infections.
- Eat wisely. 5-a-day of fruits and vegetables promotes saliva to remineralize teeth surfaces with early tooth decay.
- Visit the dentist regularly.
- Some medicine may cause dry mouth. Talk to the doctor about substitute medicines or consult with your dentist on options.
- Dental care is extremely important for those with dentures.

## **Food Security**

Food insecurity is the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways. (23) Federal poverty guidelines are established by the Office of Management and Budget, and are updated annually by the Department of Health and Human Services.

**Senior Nutrition Program:** The Administration on Aging supports nutrition services to older people, targeting low-income minorities. There are no eligibility requirements for the program. The programs offer social opportunities as well as meals. Participants may also be linked to homemaker-home health aides, transportation, fitness programs and home repair programs. Resources for Maricopa County and referrals for services at other counties can be found at Area Agency on Aging, Region One, Inc.

1366 East Thomas Road., Suite 108,

Phoenix, AZ 85014

(602) 264-2255.

[www.aaaphx.org](http://www.aaaphx.org)

Senior HELP LINE: (602) 274-4357.

**Elder Resource and Referral at (602) 542-4446 makes referrals to several private organizations to provide "Meals-on-Wheels" service.**

Food insecurity is the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways. (19 USDA ERS 2002) Federal poverty guidelines are established by the Office of Management and Budget, and are updated annually by the Department of Health and Human Services.

**Arizona Farmers' Market Nutrition Program:** The WIC Farmers' Market Nutrition Program (FMNP) is associated with the Special Supplemental Nutrition Program for Women, Infants and Children, popularly known as WIC, provides supplemental foods, health care referrals and nutrition education at no cost to low-income pregnant, breastfeeding and non-breastfeeding post-partum women, and to infants and children up to 5 years of age, who are found to be at nutritional risk. Women, infants (over 4 months old) and children that have been certified to receive WIC program benefits or who are on a waiting list for WIC certification are eligible to participate. For additional information, call (800) 362-0101.

**Child and Adult Care Food Program:** Child and Adult Care Food Program provide nutritious meals and snacks to children and adults.

Free Meals	Incomes at or below 130 percent of the poverty level
Reduced meals	Incomes between 130 percent and 185 percent of the poverty level
Full price meals	Incomes over 185 percent of poverty level



**Commodity Supplemental Food Program:** The population served by CSFP is similar to that served by USDA's [Special Supplemental Nutrition Program for Women, Infants, and Children \(WIC\)](#), but CSFP also serves people who are 60 years or older, and provides food rather than the food vouchers that WIC participants receive. Eligible people cannot participate in both programs at the same time. CSFP food packages do not provide a complete diet, but rather are good sources of the nutrients typically lacking in the diets of the target population. For additional information, call the WIC hotline at (800) 362-0101.

**Food Banks, Food Pantries, and Emergency Feeding Centers:** Food Banks and Pantries can give an emergency supply of food. For additional information, call Community Information and Referral at (800) 352-3792.

**Food Stamp Program:** The Food Stamp Program provides low-income families with electronic benefits they can use like cash at most grocery stores to obtain a more healthy diet. Eligibility is based on the Food Stamp household's resources (such as bank accounts), income, and other requirements such as residence, citizenship or qualified non-citizen status and cooperation with the Department of Economic Security's Food Stamp Employment and Training Program. For more information call 1-800-352-8401 or visit [www.arizonaselfhelp.org/](http://www.arizonaselfhelp.org/)

**School Lunch and Breakfast Program:** The National School Lunch Program (NSLP) is a federally assisted meal program operating in public and nonprofit private schools and residential child care institutions. For additional information, please call Arizona Department of Education (602) 542-8700.

Free Meals	Incomes at or below 130 percent of the poverty level
Reduced meals	Incomes between 130 percent and 185 percent of the poverty level
Full price meals	Incomes over 185 percent of poverty level

After school snacks are provided to children on the same income eligibility basis as school meals. However, programs that operate in areas where at least 50 percent of students are eligible for free or reduced-price meals serve all snacks free.

**Senior Nutrition Programs:** This program is designed to provide older Americans with low cost nutritious meals through both Congregate Meals and Meals delivered at home. Also, several private organizations provide "Meals-on-Wheels" service. For additional information, please call Elder Resource and Referral at (602) 542-4446.

**Summer Food Program:** The Summer Food Service Program ensures that children in lower-income areas receive nutritious meals during long school vacations, when they do not have access to school lunch or breakfast. SFSP sponsors receive payments for serving healthy meals and snacks to children and teenagers, 18 years and younger, at approved sites in low-income areas. For additional information, please call Arizona Department of Education (602) 542-8700.

**WIC – Women, Infants and Children:** The Special Supplemental Nutrition Program for Women, Infants, and Children - better known as the WIC Program - serves low-income women, infants, & children up to age 5 who are at nutritional risk by providing nutritious foods to supplement diets, information on healthy eating, and referrals to health care. For additional information, call the WIC hotline at (800) 362-0101.

Income must be or at or below [185 percent of the Federal poverty income guidelines](#).

**Head Start Program & Early Head Start:** The Head Start program has a long tradition of delivering comprehensive and high quality services designed to foster healthy development in low-income children. Head Start grantee and delegate agencies provide a range of individualized services in the areas of education and early childhood development; medical, dental, and mental health; nutrition; and parent involvement. In addition, the entire range of Head Start services are responsive and appropriate to each child and family's developmental, ethnic, cultural, and linguistic heritage and experience.

Income: Current Poverty Guidelines

## **Food Safety**

Older adults are especially likely to get sick from contaminated food because their decreased stomach acids lower their resistance. Slowed digestion allows more time for producing toxins. (24)

### **Fight Back**

#### ***Clean – Wash hands and surfaces often***

Always remember to wash hands, utensils, and cutting boards in hot soapy water before preparing food. Consider using paper towels to clean up kitchen surfaces. Or, if using cloth towels, consumers should wash them often in the hot cycle of the washing machine.

#### ***Separate – Don't contaminate***

Separate and store raw meat, poultry and seafood from other foods on the bottom shelf of the refrigerator so juices don't drip onto other foods. If possible, use one cutting board for raw meat products and another for salads and other foods, which are ready to be eaten.

### ***Cook to proper temperature***

Cook meat, eggs, fish and poultry thoroughly. Make sure there are no cold spots in food (where bacteria can survive) when cooking in a microwave oven. For best results, cover food, stir and rotate for even cooking.

### ***Chill - Refrigerate properly***

Refrigerate or freeze perishables, prepared food and leftovers as soon as possible, at least within 2 hours after cooking. Defrost (or marinate) food in the refrigerator, under cold running water or in the microwave

### **Useful Resources:**

*To Your Health! Food Safety for Seniors*, available in Spanish and English from

[www.FoodSafety.gov](http://www.FoodSafety.gov)

<http://www.fightbac.org/main.cfm>

<http://vm.cfsan.fda.gov>

[www.fsis.usda.gov](http://www.fsis.usda.gov)

1-888-SAFEFOOD for seafood, fruits and vegetable information from the US Food and Drug Administration

1-800-535-4555 for meat and poultry information from the United States Department of Agriculture.

### **Other Considerations for Older Adults:**

Prescription medicines, non-prescription medicines, alcohol and herbal preparations may cause interactions that affect appetite and the absorption, metabolism and excretion of nutrients. (25)

Screening for alcohol abuse is important, because alcohol affects thiamin, riboflavin, folate and vitamins A, C and B-6. (26)

## **Shopping/Food Resource Management**

**Resource:** <http://www.nal.usda.gov/foodstamp> (Food Stamp Connection) is a website with current resources including cookbooks.

Plan meals to save money, time and effort.

Make a grocery list of all the foods needed. Make meals easier to prepare by trying new ways to cook foods and use planned leftovers to save both time and money.

## Cost Saving Tips

Look for specials in the newspaper ads for the stores and for coupons for foods on the grocery list.
Look for bargains on day-old bread and bakery products
Consider buying in bulk.
Buy fresh fruits in season.
Nonfat dry milk is the least expensive way to buy milk.
Use label and shelf information in the grocery store to compare fresh, frozen, and canned foods and convenience foods versus scratch foods to see which is less expensive.
Use dry beans and peas inexpensive substitutes for meat, poultry, or fish in some meals.

## **Policy/Environmental Support**

### **Policy**

As the population ages, the following are highly recommended. (27)

- Medical nutrition therapy, funded through Medicare, for all older Americans
- Additional research to address the specific needs of older adults
- Medical and social support systems that are provided together, especially for older adults isolated in rural areas and underserved minority populations

### **Environmental**

A physical environment that promotes physical activity, social networks and personal relationships is most likely to positively affect healthy behaviors of older adults. (28, 29)

- Safe walking conditions
- Access to healthy food stores and pharmacies
- Closeness to family and friends

## References

1. Institute of Medicine, Food and Nutrition Board. *Dietary Reference Intakes for Energy, Carbohydrates, Fiber, Fat, Fatty Acids, Cholesterol, Protein and Amino Acids*. Washington DC: National Academy Press; 2002. <http://www.nap.edu>
2. National Research Council, Food and Nutrition Board. *Recommended Dietary Allowances, 10th ed.* Washington, DC: National Academy Press; 1989.
3. Carter, WJ, Macronutrient requirements for elderly persons, in Geriatric Nutrition, ed. R. Chernoff (Gaithersburg, Md.: Aspen Publishers, 1999), pp 13 – 26.
4. Millward DJ and coauthors, Aging, protein requirements and protein turnover, *American Journal of Clinical Nutrition* 66(1997): 774-786.
5. United States Department of Agriculture (USDA) and United States Department of Health and Human Services (HHS). *Dietary Guidelines for Americans, 5th ed.* 2000., Home and Garden Bulletin No. 232.
6. Russell, RM, Rassmussen, H, Lichtenstein AH., Modified Food Guide Pyramid for People over Seventy Years of Age, *Jo of Nutrition*, 1999; 129: 751-753. available at website <http://nutrition.tufts.edu>
7. Institute of Medicine, Food and Nutrition Board. Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc. Washington DC: National Academy Press; 2001. <http://www.nap.edu>

8. Institute of Medicine, Food and Nutrition Board. *Vitamin C, Vitamin E, Selenium, and Carotenoids*. Washington DC: National Academy Press; 2000. <http://www.nap.edu>
9. Institute of Medicine, Food and Nutrition Board. *Dietary Reference Intakes for Calcium, Phosphorus, Magnesium, Vitamin D, and Fluoride*. Washington DC: National Academy Press; 1997. <http://www.nap.edu>
10. Institute of Medicine, Food and Nutrition Board. *Dietary Reference Intakes for Thiamin, Riboflavin, Niacin, Vitamin B-6, Folate, Vitamin B-12, Pantothenic Acid, Biotin, and Choline*. Washington DC: National Academy Press; 1998. <http://www.nap.edu>
11. Izaks, GJ, Westendorp, RGJ, and Knook, DL, The definition of anemia in older persons, *Journal of the American Medical Association* 281 (1999): 1714 – 1717
12. Pronsky, Zaneta M., *Powers and Moore's Food Medication Interactions, 12th ed.*, Food Medication Interactions, Birchrunville, PA, 2002.
13. Rosenberg, IH, Miller, JW. Nutritional factors in physical and cognitive functions of elderly people. *American Journal of Clinical Nutrition*. 1992; 55(suppl): 1237S-1243S.
14. Koehler, KM, Pareo-Tubbeh,SL, Romero, LJ, Baumgartner, RN, Garry, PJ, Folate nutrition and older adults: challenges and opportunities. *Journal of American Dietetic Association*. 1997; 97: 167 – 173.
15. A Position of the American Dietetic Association: vitamin and mineral supplementation. *J American Dietetic Association*. 1996, 96: 73 – 77.

16. Ho, C, Kauwell, GPA, Bailey, LB. Practitioners' guide to the vitamin B-12 Recommended Dietary Allowance for people aged 51 years and older, *Jo of American Dietetic Assocation*. 1999; 99: 725 – 727.
17. Surveillance for selected public health indicators affecting older adults – United States, *Morbidity and Mortality Weekly Report* 48 (1999): 94-95.
18. NIH (National Institute of Health). National Heart, Lung, and Blood Institute. Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. U.S. Department of Health and Human Services, Public Health Service, 1998.
19. Kehayias, JJ, Total body potassium and body fat: Relevance to aging, *American Journal of Clinical Nutrition* 66 (1997): 904-910.
20. Morley, JE Anorexia of aging: physiologic and pathologic, *American Journal of Clinical Nutrition* 66 (1997): 760-783.
21. U.S. Department of Health and Human Services. *Physical Activity and Health: A Report of the Surgeon General*. Atlanta: U.S. Department of Health and Human Services, Center for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 1996. <http://cdc.gov/Oral> Health factsheets/adult.htm
22. Life Sciences Research Office, S.A. Anderson, ed., “Core Indicators of Nutritional State for Difficult to Sample Populations,” *The Journal of Nutrition*, Vol. 120, 1990, 1557S-1600S.

23. Buzina-Suboticaneć, K. Aging, nutritional studies and immune response, *International Journal of Vitamin and Mineral Research* 68 (1998): 133-141.
24. Lee, M. Drugs and the Elderly: Do you know the risks? *American Journal of Nursing* 96 (1996): 25 – 31.
25. Macken CL, Sheehy, CM, Badger, TA. The challenge of detection and management of alcohol abuse among elders. *Clin. Nurse Spec.* 1994; 8: 128-135.
26. Position paper of the American Dietetic Association, Nutrition, aging and the continuum of care, *Journal of the American Dietetic Association*, 2000; 100:580-595.
27. Institute of Medicine, Board of Health Promotion and Disease Prevention. *Who Will Keep the Public Healthy? Educating Public Health Professional for the 21st Century*. Washington, DC: National Academy Press; 2003.
28. Booth, SL, Sallis JF, Rittenbaugh, C, Hill, JO, Birch, LL, Frank, LD, Glanz, K, Himmelgreen, DA, Mudd, M., Popkin, BM, Rickard, KA, St Jeor, S, Hays, NP, Environmental and societal factors affect food choice and physical activity: rationale, influences and leverage points. *Nutrition Reviews* 2001; 59 (supp 3.2): S21-S39.